

Lyndon B. Johnson Space Center

roundup



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Joint Efforts

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On the cover

Space Shuttle Endeavour approaches the International Space Station during STS 123 rendezvous and docking operations. Docking occurred at 10:49 p.m. CDT on March 12. The Canadian built Dextre robotic system and the logistics module for the Japanese Kibo laboratory are visible in Endeavour's cargo bay. A Russian spacecraft, docked to the station, is visible in the foreground.

The Johnson Space Center Joint Leadership Team (JLT), consisting of senior civil servant and contractor leadership, and the Employee Leadership Team (ELT), comprised of mid-level civil servant and contractor employees, are working together to enhance communication, continue building relationships and address concerns and opportunities within our community. The unity and diversity within the JLT/ELT enable us to realize and maximize benefits from the talents of JSC for NASA. The JLT/ELT relationship is reflective of the agency values of safety, teamwork, integrity and mission success. We commit without compromise to embodying our core values in all that we do. The JSC JLT/ELT developed the following four messages that are being rolled out to the JSC community. I want to share those messages with you today.



JSC Expected Behaviors

To realize agency values, we have defined a set of supporting behaviors for the contractors and civil servants that comprise the JSC community. Everyone here is expected to demonstrate these behaviors with everyone else in our community every day.

Be respectful—Demonstrate consideration or appreciation.

Be trustworthy—Act with integrity and honor.

Be accountable—Be answerable and responsible for your actions.

Be open-minded—Be receptive; effective communication is a crucial ingredient to practicing these behaviors daily.

JSC Effective Team Development

Teamwork is essential to accomplishing the goals of our JSC community.

Effective team results are obtained when the team is properly empowered and equipped with the necessary tools, which include team enablers, to successfully accomplish the task.

These five effective team enablers are the keys to JSC effective team development:

- Set team expectations.
- Harness the best of each team member to get the best out of the team.
- Require active participation.
- Perform effective conflict resolution.
- Have fun.

Contract Relationships—A Working Guide

We know that contract relationships are complicated, overlaid with constraints, perceptions, and sometimes-conflicting objectives. The JLT/ELT created a toolkit to help make sense of the complexities by

describing the roles, responsibilities and authorities of the parties involved and provided some tips that will help you recognize when a contract relationship is going astray.

Closed Loop Feedback across JSC

NASA Human Resources produced and published “Working Together to Resolve Issues,” which can be found at <http://resolvingissues.jsc.nasa.gov/index2.cfm>.

As depicted in this helpful guide, numerous resources are available to employees and supervisors to raise concerns and resolve issues. While many issues can and should be resolved at the lowest possible level, it is important for employees to have an awareness of the avenues available if an issue is not resolved.

NASA has identified four areas of concern from the 2005 survey and is working to resolve them. The four areas cover the following: leadership, management processes, contractor-civil servant relationships and change at JSC.

Since the formation of the JLT upon the signing of their Declaration of Purpose in November 2003, and the subsequent forming of the ELT, I have been very pleased with the success and progress of their efforts and, in particular, the products from these four teams. I have already heard several stories about the value of these products and look forward to hearing many more, in addition to looking ahead with excitement and anticipation of what the JLT/ELT will bring about next.

Spotlight on... Dom Del Rosso

Reduced Gravity Office Program Manager/Test Director
and WB57 Special Equipment Operator

Dom Del Rosso graduated from the University at Buffalo in 1988 with a bachelor of science in aerospace engineering. He began his work with NASA as a subcontractor in 1989, working for Ocean Systems Engineering and then moved on to McDonnell Douglas for Extravehicular Activity (EVA)/robotic work. Del Rosso became a civil servant in 1991 in the Crew and Thermal Systems Division as the Functional Area Manager for Space Station Freedom Assembly and Maintenance and general EVA testing. He has been called "the guy who has had every cool job at Johnson Space Center."



Dominic "Dom" Del Rosso in the back seat of a WB-57F aircraft as he worked as a flight engineer in 2005.

Q: What are some of your favorite hobbies or interesting things you do away from the office?

A: Pretty much anything with a little adventure to it. Much of my time is devoted to the fire service outside of work. I am a chief officer but tend to be hands-on as a rescue specialist and Emergency Medical Technician. If I ever have time, riding my bike or motorcycle is relaxing to me, as is taking a nice, long sail. Shooting trap or my bow, or going scuba diving in places that are off the beaten path are other interests I have. Also, I have summited a couple of high mountains to just under 23,000 feet.

Q: What is the last good book or article you read?

A: "A Short Walk in the Hindu Kush" by Eric Newby. It is a story of two guys, with no mountaineering skills at all, who decide to travel halfway around the world to attempt the highest peak in Afghanistan while armed with little more than a dry British wit and a small book on how to climb mountains.

Q: What is the coolest part of your job?

A: I get to do something different very often; that is the coolest part. I have been introduced before giving a presentation at various functions as "the guy who has had every cool job at JSC." That kind of took me by surprise when I first heard that. I know I've been incredibly fortunate to have been given certain opportunities. I have worked with robots, spent several hundred hours in spacesuits, built hardware, assisted in training and operation, fly Zero-g almost every week. I don't think I've had every cool job but, so far, I think I am well on my way.

Q: What do you most look forward to at NASA?

A: Personally, I look forward to the next challenge. I get bored pretty easily. For NASA, I look forward to some day seeing the "meatball" painted on the main hangar on Mars.

Q: What is your best memory at JSC?

A: The best memory is a tough one. I think it would have to be the first time I conceptualized hardware and managed

its construction to fly on a Shuttle Transportation System Detailed Test Objective. I remember walking out of Mission Control late at night after the EVA and walking across site, looking up and seeing the orbiter pass over. I probably stood there for several minutes just staring and trying to really grasp what we had done so matter-of-factly. Luckily, it was dark and no one saw me.

Q: What would people be surprised to know about you?

A: I really feel that I have been so lucky to work with and learn from some people I truly respect here at JSC, and probably because of the caliber of people here. I actually hope I finally find something I am really good at some day.

Q: What is your favorite quote or motto?

A: 1) No true adventure is fun while it is happening; 2) In life there are no summits, so you must enjoy the climb; 3) If it looks like it hurt a lot it probably did, and was never a good idea in the first place.

***Do you know** a fellow JSC team member who does something interesting or noteworthy outside of work, in addition to their day job? Would you like to nominate someone to be highlighted in the Roundup "Spotlight" page? Send your suggestion to the JSC Roundup Office mailbox at jsc-roundup@mail.nasa.gov with the person's name, work title and a brief description of why he or she should be considered.*

Del Rosso, right, then assistant Test Director for the Reduced Gravity Office, assisted astronaut Scott Parazynski with a training version of the Extravehicular Mobility Unit spacesuit in 2003.



Engineers volunteer with student robotics teams

2007-2008
ROBONAUTS
MENTORS

Jide Akinyode
Rob Ambrose
Bill Bluethmann
Lyndon Bridgewater
Ronnie Bruce
Jeff (TC) Ciabattoni
Chris Culbert
Don Davis
Joshua M. Figuered
Nathan Frazier-Chanpong
Jim Fox
David G. Glover
Stephen Harper
Ed Herrera
Aaron Hulse
Heather Jones
Lucien Junkin
Ed Klein
Mason Markee
Dan Nolan
Justin Ridley
Jonathan Rogers
Chris Sanborn
Adam Sanders
Brett Sommers
Reyes Vega
Kris Verdeyen

(List provided by CCISD)

University of Texas at Austin senior and JSC co-op Mason Markee, center, mentors Robonauts students Solomon Mathew, left, and Robbie Greene on this year's practice robot. Markee began robotics in the sixth grade at the Science Magnet Program at Seabrook Intermediate School and continued in high school with the FIRST team.

By Heather Nicholson

While at work, they are building advanced technology for future space exploration. After work, they are building the minds of future leaders in space exploration.

For several engineers at Johnson Space Center, extending their workdays to volunteer with local students is no hardship. They spend every year helping Clear Creek Independent School District's (CCISD's) robotics team – Robonauts – for the challenge, education and fun.

Bill Bluethmann, deputy branch chief for the Intelligent Systems Branch, Automation, Robotics and Simulation Division, has been volunteering with Robonauts since 1998. He meets with the students to help create and manufacture a robotic challenge for the annual For Inspiration and Recognition of Science and Technology (FIRST) Robotics Competition.

"For the past few years, I've been working with the students on the software subsystem. Despite many opinions to the contrary, young people today are doing very well," Bluethmann said. "From the students I've personally worked with, the future looks very bright from a technology, innovation, math and science perspective."

Bluethmann said he also keeps a lookout for future JSC employees.

"I like collaborating with the students to help them find a possible career path," he said.

Two former Robonauts students did take their career path to NASA. Justin Ridley, an International Space Station flight controller in the Environmental Control



The Clear Creek Independent School District Robonauts team with one of the projects JSC mentors helped with.

NASA/PECK

and Life Support Systems Group, and Jonathan Rogers, a Robotics Systems Engineer in the Robotics Systems Technology Branch, said they both benefited from early exposure to engineering and now work at JSC.

"I started doing FIRST when I was in high school. It had a very big impact on my life and was a big reason I chose to pursue a career in engineering. I can honestly say that I wouldn't be where I am today without FIRST. It's important to me to continue working with high school students who may be impacted by the program in the same ways I was. One of NASA's mission statements is to inspire the next generation of explorers, and that's what the FIRST program is all about," Ridley said.

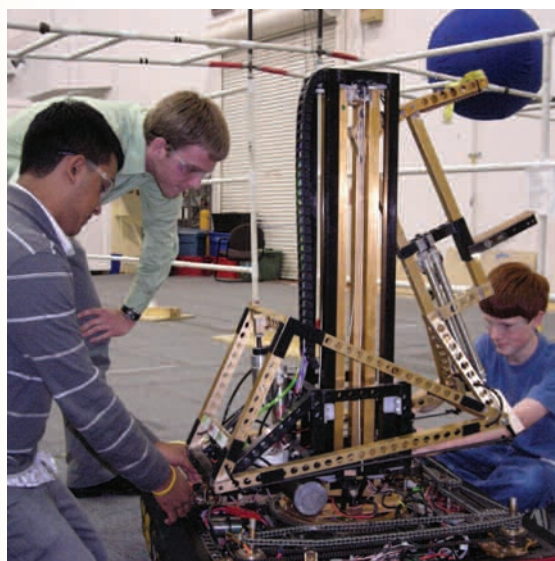
Rogers echoed the sentiments and said that the future looks bright for engineering and the interest it piques in today's youth.

"It's widely accepted that our country needs more engineers, and after seeing the enthusiasm that FIRST students across the country have for science and engineering, I think that we're on the way toward having young people step up to the challenges ahead of us here on Earth and out in space," Rogers said.

The Robonauts team is comprised of 40 students from the five CCISD high schools. This 12-year-old program has allowed students with an interest in math and science to be mentored by teachers and NASA engineers. The FIRST Robotics Competition challenges the teams and their mentors to solve a common problem in a six-week time frame using a standard "kit of parts" and a common set of rules.

Rob Ambrose, deputy division chief for the Automation, Robotics, and Simulation Division, has been with the Robonauts since the beginning. He helps the students plan, design, build, integrate and test their projects. His son, Eric, is currently a member of the FIRST team.

"It is fun. It is a great way to teach engineering and is also an opportunity for the engineers to learn something too," Ambrose said. "High school kids are able to do things today that graduate students did a generation ago."



NASA/PECK



What it means to be part of a team

Whether you're working at mission control, teaching a foreign language or patrolling the grounds, everyone at Johnson Space Center is part of one team. Teamwork is essential to accomplishing the goals of our JSC community, and effective team development is the tool that will help us create a successful workplace.

Team: A collection of diverse individuals with different needs, backgrounds, experience and personal objectives, with a high degree of interdependence and cooperation driving toward common shared objectives and goals.

Effective team development must start with individual team members exhibiting **JSC Expected Team Behaviors** (more on page 7), which are:

- Be respectful
- Be trustworthy
- Be accountable
- Be open-minded

Effective team results are obtained when the team is properly empowered and equipped with the necessary tools, including effective team enablers, to successfully accomplish the task.

These five team enablers are the keys to JSC effective team development:

1. Set team expectations

- Appoint a leader
- Define team member roles and lines of accountability
- Specify timelines and decision gates to achieve desired results
- Keep meetings focused

SATERN courses:

- *Participating in Teams Simulation* (SS-TEAM0170)
- *Building a Healthy System* (SS-STGY0402)
- *Coach with Confidence Simulation* (SS-MGMT0280)

2. Harness the best of each team member to get the best out of the team

- Apply individual talents and creativity
- Appreciate the benefits of diversity

SATERN courses:

- *Cross-Generational Workers in the 21st Century* (SS-LEAD0236)
- *Cross-Cultural Communications Simulation* (SS-COMM002S)
- *Getting Past Clashes: Valuing Team Diversity* (SS-TEAM0213)

3. Require active participation

- Create interdependence by empowering, freeing up and serving others
- Emphasize team progress and accomplishments by celebrating successes

SATERN courses:

- *Effectively Communicating in Teams* (SS-TEAM0172)
- *Energizing and Empowering Employees* (SS-LEAD0123)
- *Effective Team-Building Simulation* (SS-TEAM-0171)

4. Perform effective conflict resolution

SATERN courses:

- *Conquering Conflict Through Communication* (SS-TEAM0214)
- *Leading Successful On-Site Teams* (SS-TEAM-0152)

5. Have fun

SATERN courses:

- *Teamwork and Emotional Intelligence* (SS-COMM0143)

Team results can be impacted by barriers, which may exist when effective enablers are not fostered. However, by providing generic team training that emphasizes effective team enablers to leaders and team members, these barriers may be reduced or avoided. Please review the SATERN online courses listed above for this training.

Got a problem? The “Working Together to Resolve Issues” Web site can help

The Closed Loop Feedback Team’s purpose is to document issue-resolution avenues available to the Johnson Space Center team, and it began by identifying all the avenues for communication at JSC. The resulting product was the communications matrix, which is available on the Joint Leadership Team Web site.

At about the same time the Closed Loop Feedback Team was forming, Center Director Mike Coats released the document titled “Working Together to Resolve Issues.” As a result, the team realized that the most value in closed-loop communications would be gained from supporting the “Working Together to Resolve Issues” concepts.

The Web site allows a JSC team member to review the various avenues available for resolving issues and choose which most closely aligns with his or her problem and concern. When a resolution can’t be reached within an organization, the “Working Together to Resolve Issues” Web site identifies all of the third-party options.

As noted by Coats in his introduction to the site, “Each entity fulfills a specific role, but they also work collaboratively when an issue covers multiple areas.”

To access the Web site, visit <http://resolvingissues.jsc.nasa.gov/index2.cfm>.

The following are available on the “Working Together to Resolve Issues” Web site.

American Federation of Government Employees (AFGE) Union

The AFGE union represents the interests of employees with respect to personnel policies, practices and matters affecting working conditions. For more information, visit <http://jscpeople.jsc.nasa.gov/specialprogs/default.htm> or call the union at x34277.

Employee Assistance Program (EAP)

The EAP offers confidential evaluation, counseling, education and referral services to JSC employees, onsite contractors and their families. These services are free of charge. To contact the EAP, call x36130 or go to <http://sd.jsc.nasa.gov/omoh/scripts/EmployeeAssistanceProgram/EAPProgram.aspx>.

Office of Equal Opportunity and Diversity

The Office of Equal Opportunity and Diversity ensures the effective implementation of the NASA and JSC equal opportunity policies. More information is also available at <http://www6.jsc.nasa.gov/EOPPO/>.

Human Resources (HR)

The HR Office serves as both an employee advocate and management consultant to assist in resolving issues at the lowest level. Contact the HR Customer Service Desk at x30476, or go to <http://jscpeople.jsc.nasa.gov/Contacts/default.htm> to locate the right HR representative to assist you.

Legal

The Office of the Chief Counsel serves as JSC’s primary point of contact on litigation and other legal matters within or beyond the center. To learn more about the services, go to <http://legal.jsc.nasa.gov/> or call x33021.

Procurement

The goal of the JSC Office of Procurement is to ensure the center executes its missions successfully by effectively and efficiently managing the acquisition process. For a listing of JSC Procurement Office managers and deputies, visit http://officeofprocurement.jsc.nasa.gov/baorg_files/slide0001.htm.

Please see the following Web site in the event you have general procurement-related questions: <http://officeofprocurement.jsc.nasa.gov/>.

Ombuds Office

The Ombuds Office provides the JSC community a confidential, independent and neutral channel to discuss and develop options as well as provide an impartial forum to voice concerns, evaluate situations, organize thoughts, assess feelings and focus on the important and relevant aspects of a specific situation. For more information, visit <http://ombuds.jsc.nasa.gov/> or call Linda Godwin at x48802 or Ralph Anderson at x31272.

Security

The Security Office is responsible for maintaining a comprehensive program at JSC to provide protection for people, information, facilities and operations. For a security concern, call x33333 onsite at JSC and Sonny Carter Training Facility or x44444 at Ellington Field. For less immediate concerns, visit <http://www6.jsc.nasa.gov/ja/js/js4/external/> for more information.

In addition to the tools available above, the NASA Safety Reporting System is available to JSC contractor team members to report safety concerns, and the Office of the Inspector General can be contacted to report waste, fraud and abuse.

While all of these organizations are available to help, it is everyone’s responsibility to constructively resolve conflicts as quickly as possible and at the lowest level possible. Quite often, a misunderstanding can be cleared up just by having one conversation.

JSC Team Expected Behaviors

NASA values consist of safety, teamwork and integrity in support of mission success. We commit, without compromise, to embodying our core values in all that we do. To realize these values, we have defined a set of supporting behaviors for the contractors and civil servants that comprise the Johnson Space Center community.

Respectful Demonstrate consideration or appreciation. We respect ourselves and each other. We appreciate the creativity and broader perspective of a diverse team. This diversity is vital to our success.

Ask yourself:

- Do I actively solicit contributions from the people I work with, regardless of their badges or roles?
- Do I use the term “team” more than the term “I”?
- Do I treat others as I wish to be treated?
- Do I share accolades in public and constructive criticism in private?
- Do I accord others the benefit of the doubt and understand a situation before responding?
- Do I value all constructive input and use this to make a decision?
- Do I credit others for their work?
- Am I aware of nonverbal cues, whether my own or others’?

Trustworthy Act with integrity and honor. Our success is built on an environment of trust and ethical behavior. We exhibit sincerity and truthfulness in all actions.

Ask yourself:

- Do I keep the people I work with apprised of my progress?
- Am I honest in my assessments?
- Do I communicate fully and openly?

- Am I true to my word and do I honor my promises?
- Do I present a calm presence even if the news is bad?

Accountable Be answerable and responsible for your actions. We are personally answerable for fulfilling our individual and team commitments.

Ask yourself:

- Do I consistently deliver my work as I have promised?
- Do I willingly and gracefully accept well-meaning feedback?
- When resolving a problem, do I consider how my actions contributed to it?
- Do I emphasize face-to-face communication over e-mail?
- Do I confirm that my message has been received as intended?
- Do I purposefully plan what information to communicate and how best to do that?

Open Minded Be receptive. We seek knowledge that will strengthen our team and ourselves.

Ask yourself:

- Do I look for innovative ways to address challenges?
- Do I look inward for areas of improvement?
- Do I actively seek honest dis and feedback, particularly if is unfolding?
- Do I help others to learn and grow?
- Am I constantly striving to improve the team’s success?
- Do I seek opportunities to contribute to team success?
- Do I offer constructive alternative observations and dissention?

Effective Communication is a crucial ingredient to practicing these behaviors daily.

With effective communication, we make these behaviors common practice. Communication is a two-way process that requires us to listen and understand at least as much as we speak. We openly share information and knowledge, focusing on quality, not quantity.

Why are we undertaking this effort?

- To maintain our legacy of being an environment where all team members work together to overcome odds and achieve incredible tasks. When we have all 15,000 members of the JSC team pulling together, working well, then everyone wins. JSC remains healthy, and programs and contracts succeed. We can do more together!
- To make life better for all of our employees. To create an environment in which employees feel they can contribute, add value, disagree openly and without fear, and enjoy working together every day to execute our mission.
- To be the best team we can be.

Contract Relationships – A Working Guide

Contract relationships are a unique facet of how we work as a Johnson Space Center team. They embody two special features: a common purpose and roles that are ultimately defined by law. This toolkit makes sense of the complexities by describing the roles, responsibilities and authorities of the parties.

First It's important to emphasize that contractor employees work for the company that employs them. When contractors and civil servants are co-located, lines of responsibility and oversight can become blurred. This can be dangerous if it violates procurement regulations that prohibit the government from supervising contractor employees. Just as important, it inhibits the contractor's ability to retain their company's independent thinking and perspectives that are necessary to ensure that differing opinions are encouraged and asserted. Excessive overlap of government and contractor duties and responsibilities could obscure accountability for decisions and actions. This is important *not* as a means of assigning blame, but as a matter of personal integrity and pride in one's work and to maintain the lines of authority for decision-making within the JSC team.

Second The contract relationship is bound by procurement regulations and by the contract. This means that there are certain things that the parties cannot legally do. There are many things that only certain designated officials have the authority to do. The roles and authorities under a contract supersede individuals' positions within their organization's management chain. For the government, only the Contracting Officer (CO) and the Contracting Officer's Technical Representative (COTR) can provide official guidance or direction to the contractor.

The COTR's role is to monitor technical performance, clarify statement of work issues, assess documentation and work products and evaluate the contractor's performance. The CO is the sole official who can authorize schedule changes and changes in technical requirements. If you have concerns about someone other than the proper officials exercising authority under the contract, it is your obligation to raise a question to the CO/COTR or to your company's contracts office. Giving *or* accepting inappropriate direction is possibly illegal, and it undermines the deal that the parties signed. If all else fails, JSC has appointed an ombudsman for procurement matters, Lucy Kranz, to facilitate the resolution of issues.

Third Certain standards of providing performance feedback to the contractor must be followed. When correctly done, it gives the contractor valuable information on contract performance and forces the government to carefully consider the true contract requirements. The basic tenet to keep in mind is that it's *not personal*. Evaluation should focus on the quality and timeliness of work products required by the contract, and it should be based on objective data. It should be documented so that it is clearly understood and used as the basis for the contractor to independently develop improvement actions. The government is *not* in the business of sending over performance evaluations that are aimed at individual personalities or that let emotions get in the way of facts.

One might have the impression that the road to a good contract relationship is lined with minefields. This is not true, but it *is* a complex relationship that has special rules. Understanding and abiding by the unique aspects serve to strengthen, not curtail, the fairness and teamwork spirit that we expect at JSC.

Check out the Joint Leadership Team Roles and Responsibilities Web site at <http://jlt.jsc.nasa.gov/JSCRoles.cfm>, as well as the online training available in SATERN.

Is your contract relationship going astray?

Civil Servant Don'ts

- Supervise contractor employees
- Provide continual instruction on how to get the job done
- Approve contractor employee leave, overtime, flex hours, etc.
- Discuss promotions, hiring, salary or performance issues with (or regarding) contractor employees

Contractor Employee Don'ts

- Expect to be supervised by civil servants
- Expect or solicit continual instructions on how to do their jobs from civil servants
- Request approval for leave, overtime, etc., from civil servants
- Request input for performance evaluations, recommendations for promotion or other personnel decisions from civil servants

Generation Y

...taking the world and center by storm

By Catherine E. Ragin

If you aren't familiar with the famed Generation Y, or "Gen Y-ers," you will be. Generation Y is projected to be 47 percent of the workforce by 2014, and it is already a large contingent now at 25 percent. Gen Y-ers were born roughly between the years 1977 and 2000, and they range in age from as old as 31 to as young as 8. But that is definitely not their only defining factor.

But who is this group, and what do they have to do with the future of the space program and Johnson Space Center?

A group of Gen Y-ers at JSC participated on a committee to address the NASA Headquarters strategic communications plan. Last fall, they decided to put together a presentation to share their perspective on Generation Y in conjunction with the strategic communications strategy released.

"In one of our first meetings they decided that one of their (strategic communications) audiences was Gen Y, so we were asked to participate on the committee after that to help represent the Gen Y perspective," said Nick Skytland, a project manager for Space Life Sciences and one of the authors of the Gen Y presentation.

The results of their research give a unique insight into this generation and their needs, not only from the general public perspective looking in on NASA, but also from the space industry employee point of view.

"A common theme that came up is that a lot of younger people are asking for a two-way discussion," Skytland said. "We're very used to having a one-way discussion at NASA, using very formal channels to make it happen, but this generation is very used to having an informal, two-way discussion."

Gen Y-ers are anxious to be heard, because, as the studies show, if they are not engaged, they can become easily bored and disillusioned.

"We all came to the consensus that we don't want to replace face-to-face communication. We love having that face time, especially with our management—getting in there and talking about what issues are important, the big-picture items in terms of NASA, where we are going and what our mission is," said Kristen Painting, another author of the study and an International Space Station instructor.

However, even if Gen Y is commonly cast as those just trying to quickly move up in the ranks, they do have a healthy respect for the people that have trailblazed before them—especially when it comes to our esteemed space-faring history.

"It's not like anyone is saying, 'This is NASA's history, but we want to change it,'" Skytland said. "We're saying that we respect the folks that came before us, and we want to build on the history."

Gen Y-ers have a lot of common characteristics: they like mentors; access to instant information and instant gratification; attracted to large social movements; very mobile; interdependent; used to diversity; multitaskers; wired; empowered; globally connected; and grew up with talk shows and reality TV.

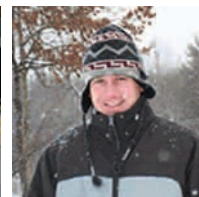
All of these aspects should be taken into consideration when courting this generation of explorers and one of NASA's toughest audiences. But even with some of the negatives, the authors of the Gen Y presentation feel there is also a lot of hope, and it starts with engaging each other.

"As far as what we want to do with Gen Y, what we recognized specifically in that presentation is that there are a lot of communication tools and new things available that we can use to reach out to that generation. A section of that presentation is saying not to be afraid to try some of those new tools and those ways of reaching out," Painting said.

Skytland added, "If there's one thing that we really want to shine through, it's that at NASA, it's really easy to put on our engineering, our scientist, our management hats and say, 'Okay, now what is the answer?' This presentation wasn't meant to give an answer at all. It was really meant to bring up questions that sparked a conversation. We want employees, who understand their own organizational constraints and issues, to say, 'What can we do better? What can we improve? How can we achieve this mission together?'"

To view the complete Generation Y presentation, visit: <http://www.opennasa.com/files/>.

The Gen Y presentation authors are Nick Skytland, Kristen Painting, Aaron Barrera and Garret Fitzpatrick.



STS-124: *an international affair*

By Brandi Dean



The STS-124 crew. From the left are astronauts Gregory E. Chamitoff, Michael E. Fossum, both STS-124 mission specialists; Kenneth T. Ham, pilot; Mark E. Kelly, commander; Karen L. Nyberg, Ronald J. Garan and Japan Aerospace Exploration Agency's Akihiko Hoshide, all mission specialists. Chamitoff is scheduled to join Expedition 17 as flight engineer after launching to the International Space Station on mission STS-124.

The cargo aboard the Space Shuttle *Discovery* on mission STS-124 has already traveled halfway around Earth, more than 10,000 miles over land and sea. Perched atop the launch pad at Kennedy Space Center, it's now ready for the culmination of its 23-year journey to the International Space Station.

Hope will take flight on *Discovery*. Or rather, Kibo, a laboratory named after the Japanese word for hope, will take flight.

STS-124 will launch the centerpiece of the Japan Aerospace Exploration Agency's (JAXA's) station laboratory complex. Kibo is a 14.4-ft-diameter, 36.7-ft-long space laboratory, so big that it barely fits inside *Discovery*'s payload bay.

Officially called the Japanese Pressurized Module, Kibo will be the largest station laboratory. The bus-sized module will be the second component of Japan's laboratory complex to fly. The first, the Japanese Experiment Logistics Module, was launched in March on shuttle mission STS-123.

Kibo weighs in at 32,000 pounds. It's so large that the shuttle's Orbiter Boom Sensor System was left at the space station during the last mission. There's not room in *Discovery*'s cargo bay for both the boom and Kibo.

And Kibo is so heavy that only its primary set of avionics systems can be launched in the module. The second set was launched in the logistics module delivered on STS-123 so that it will be on hand if needed when it comes time to activate Kibo.

"Kibo is just a beautiful piece of work," said lead shuttle flight director Matt Abbott. "I know the Japanese space agency had an element installed on STS-123, but this is really their pride and joy, this module. It's amazing."

Not just in terms of size.

"It's going to be a world-class laboratory," said astronaut Mark Kelly, *Discovery*'s commander. "It's its own little spacecraft in the sense that it has an environmental system, electrical system, its own computer system, its own robotic

arm. It's got a lot of capability, and I'm hopeful that, over the years, that laboratory produces significant discoveries in the fields of chemistry, physics, material science, life sciences. It certainly has that potential."

The Kibo laboratory complex includes a robotic arm, which is also being delivered on STS-124. A third and final shuttle mission to complete the complex will launch an exterior platform for the lab that will allow experiments to be exposed to space.

"This is a big step for the Japanese community, the science community especially, because that means that they can start their own science," said *Discovery* Mission Specialist Akihiko Hoshide, a Japanese astronaut. Hoshide will install the module using the space station's robotic arm and he will be the first to float inside the lab once it is opened.

On Earth, STS-124 will mark the first time the JAXA flight control team will activate and control a module from Kibo Mission Control in Tsukuba, Japan. JAXA is scheduled to take over final activation of Kibo on the fifth day of STS-124, the day after the module is installed.

"That's a big day for Japan," Hoshide said. "We'll be doing vestibule outfitting, which is basically hooking up all the jumper connections between Node 2 and the pressurized module for power signals, data cables, fluid lines, all that stuff. Once that's done we will be activating the main computer in the pressurized module from our laptop computer inside the station—we call that the initial activation.

"Then, once the computer's activated, the Mission Control Center in Tsukuba Space Center can start commanding, so we'll hand it over to them. They will start doing the final activation of the module."

That's the part that NASA Lead Space Station Flight Director Annette Hasbrook is most looking forward to.

"It'll be my 'this is really cool' moment," she said.

Hasbrook has been working with JAXA toward this goal since 1999, and she has watched as the ground control teams at NASA developed relationships with their JAXA counterparts. It's been a learning experience for both sides, she said, but a rewarding one.



Japan Aerospace Exploration Agency astronaut Akihiko Hoshide (right), STS-124 mission specialist, participates in an exercise in the systems engineering simulator at Johnson Space Center. The facility includes moving scenes of full-sized International Space Station components over a simulated Earth. United Space Alliance crew trainer Stephen S. Gauvain assisted Hoshide.

"You really see the rapport developing between the flight controllers of each nation's control center," Hasbrook said. "That's been a lot of fun to watch, the development of that and the evolution. In both cases, we started out with young flight controllers, not that experienced in their system, and on the Japanese side, they hadn't done manned spaceflight before. Now they've done the planning and the training and they're getting ready to fly."

The schedule of activities during STS-124 will change some from what has been the norm on recent shuttle flights. Because Kibo's size required that the boom sensor system that is used for shuttle heat shield inspections be left on the space station, *Discovery's* heat shield inspections will occur later than has been the case on previous missions.

Normally the boom is taken out on the second day of a mission, before the shuttle gets to the space station, to make sure the shuttle wasn't damaged during launch. Instead, *Discovery's* crew will do an inspection using only the cameras at the end of the shuttle's robotic arm at that point. Even that will be limited, however, since the camera on the arm's elbow joint, which helps the astronauts steer the arm, must be strapped down to make sure it doesn't contact Kibo during launch.

"We'll be doing some survey of the upper surfaces of the wings, primarily, but not much more than that because the reach is very limited for the arm in that configuration," Abbott said. "So we won't be getting the kind of information that we usually get then. But later on we will do a focused inspection using the boom, after we get docked."

Discovery will receive a thorough inspection after it undocks. An extra day has been added to the schedule for STS-124 after undocking to give teams on the ground plenty of time to go over the data that is obtained before landing.



In the Space Station Processing Facility, the Japanese Experiment Module (JEM) rests on a work stand during pre-assembly measurement activities. Developed by the Japan Aerospace Exploration Agency, the JEM will enhance the unique research capabilities of the orbiting complex by providing an additional environment for astronauts to conduct science experiments.

Astronaut climbs mountains between space missions

NASA astronaut Scott Parazynski, 47, has been planning a Mt. Everest expedition for more than 15 years. He was originally scheduled to join an expedition in 1992, but his selection into the astronaut corps and subsequent space mission postponed his mountaineering plans until this year. He recently returned from shuttle mission STS-120 and chose to spend his vacation time and money on the climb.

Some of the mountains he has already conquered include Cerro Aconcagua, which, at 22,841 feet above sea level, is the tallest mountain in the world outside of Asia; and 53 of Colorado's mountains, which peak at more than 14,000 feet. Many of the challenges Parazynski is facing at Mt. Everest aren't much different from his time in space. He said the physical and mental obstacles one has to overcome when training to be an astronaut are similar when training to climb a mountain.

"Being a climber has helped me be an astronaut. One of the best ways to prepare for a space walk is rock climbing. It takes a lot of strength and endurance," he said.

Videos, photos and a blog of Parazynski's trip to Mt. Everest can be found at www.nasa.gov/astronauts/everest_expedition.html and http://youtube.com/view_play_list?p=31D774DEBE323704



Mt. Everest, Nepal



Mt. McKinley, Alaska



Mt. McKinley, Alaska



Capitol Peak, Colo.

El Diente Peak, Colo.

Space Center Roundup

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